Mississippi State University — Data Science Academic Institute

Biomedical Informatics

Year One

Fall Semester				Spring Semester		
EN	1103	English Composition I		EN	1113	English Composition II
MA	1713	Calculus I		MA	1723	Calculus II
CSE	1284	Intro to Programming		CSE	1384	Intermediate Programming
DSCI	2013	Data Science Literacy		DSCI	2012	Data Wrangling Lab
		Humanities				Lab Based Science

Year Two

Fall Semester				Spring Semester		
MA	2733	Calculus III		MA	3123	Statistical Inference
CSE	2813	Discrete Structures		CSE	2383	Data Structures & Analysis of Algorithms
DSCI	3013	Data Acquisition				Public Speaking Course
BIS	3233	Management Information Systems		PHI	1113	Intro to Logic
DSCI	4013	Data Visualization		DSCI	3022	Data Visualization Lab
						Fine Art

Year Three

Fall Semester				Spring Semester		
MA	3113	Intro to Linear Algebra		MA	4523	Intro to Probability
CSE	4633	Artificial Intelligence		CSE	4503	Database Management Systems
ABE	4633	Biomedical Signals and Sensors		BCH	4443	Introduction to Public Health
ABE	4463	Intro to Imaging in Biological Systems				Written Communication Course
		Social/Behavioral Science				Lab Based Science
DSCI	3012	Description, Analysis & Inference Lab				

Year Four

Fall Semester				Spring Semester		
CSE	3763	Legal & Ethical Issues in Computing		DSCI	2022	Cloud, Quantum & High Perf Computing Lab
DSCI	3032	Artificial Intelligence Lab				Biomedical Systems & Diagnostics Course
ABE	4323	Physiological Systems in Biomedical Eng				1 of 2 Biomedicine & Health App Course
		Biomedical Modeling Course				2 of 2 Biomedicine & Health App Course
DSCI	4553	Senior Capstone One		DSCI	4663	Senior Capstone Two

Biomedical Modeling (Choose 1 of the following):

CSE   4683 Machine Learning and Soft Computing
CSE   4623 Computational Biology
MA   4343 Mathematical Modeling with Biological and Ecological Applications
BIO   4124 Mathematical Modeling for Biologists

Biomedical Systems and Diagnostics (Choose 1 of the following):

ABE   4443 Spectroscopic Sensing in Biosystems
EP   3613 Exercise Electrocardiography
ABE   1912 Computational Problem Solving for Biological Systems

Biomedicine and Health Applications (Choose 2 of the following):

FNH   3103 Introduction to Health Professions
CSE/PSY 4653 Cognitive Science
BCH   2013 Intro to Forensic Science
BCH   4113 Essentials of Molecular Genetics